

Notice of Allowability

Application No.

10/688,916

Examiner

LUU MATTHEW

Applicant(s)

HO ET AL.

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed February 28, 2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 28 February 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



**MATTHEW LUU
PRIMARY EXAMINER**

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

None of the prior art made of record teaches or suggests a method for converting monochrome images comprising steps of:

blocking a monochrome image;

obtaining pixel values of monochrome image blocks;

layered mapping of the monochrome image with equal grayscale to obtain color values of equal grayscale layers for the monochrome image;

assigning each of the equal grayscale layers a corresponding color; and

matching the monochrome image blocks with colors corresponding to the equal grayscale layers according to the color values and the pixel values.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Fujimoto (5,751,921) discloses (Figs. 2-6) a method for converting monochrome images to color images. This method uses a region segmentation module (Fig. 2, module 231) for segmenting an input image on a document into

rectangular blocks and output them. Fujimoto further discloses (Fig. 5) an example of converting a monochrome document into color document. By processing of the region segmentation module (231), the input image shown in (Fig. 5) is segmented into regions in which characters are arranged in blocks. Fujimoto also discloses (Fig. 2) a character image conversion module (233) converts bitmap data values of a monochrome image into bitmap data values of a color image.

However, Fujimoto fails to disclose the claimed limitation "layered mapping of the monochrome image with equal grayscale to obtain color values of equal grayscale layers for the monochrome image; assigning each of the equal grayscale layers a corresponding color; and matching the monochrome image blocks with colors corresponding to the equal grayscale layers according to the color values and the pixel values".

-Imade et al (5,872,864) disclose (Figs. 1, 6 and 12-14) an image processing apparatus includes a color image/monochrome image converting section. The image is divided into blocks as shown in Figs. 12-14.

-Haggerty (4,688,031) discloses (Fig. 6) a color to monochromatic image conversion, which converts each color area of the original image into a corresponding area of a monochromatic image having a particular pattern of light and dark dots corresponding to a representing the original color of the area.

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-Beaman et al (6,091,505) disclose (Fig. 2) a method for achieving enhanced glyphs in a font. This method uses a glyph layer processor (12) for dividing a given glyph as a series of one or more layers. Each of the layers of a glyph (24, 26 and 28) can be individually colorized.

-Sakuyama et al (US 2004/0126029) disclose (Fig. 16) an image is divided into tile, sub-band, and precinct and code block. The tile is obtained when the image is divided into rectangular regions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (571) 272-7663. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BELLA MATTHEW can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Luu



MATTHEW LUU
PRIMARY EXAMINER